

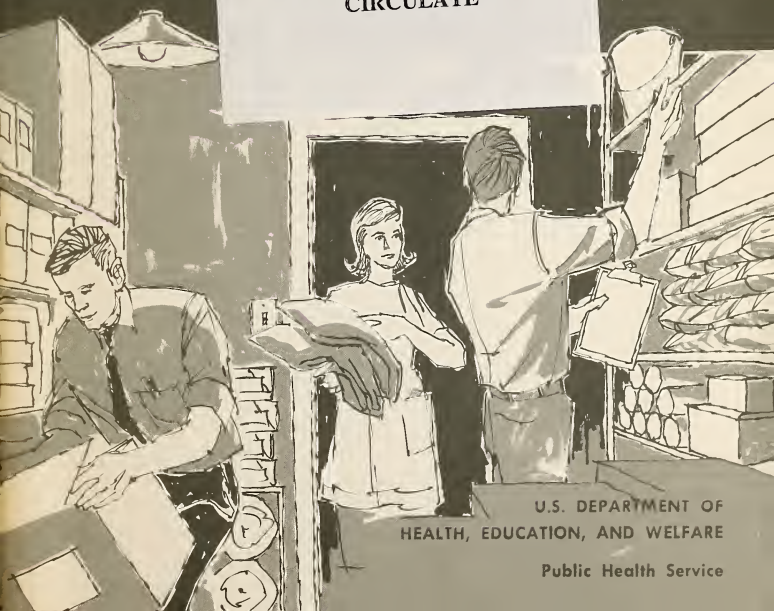
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General Stores Section of the Packaged Disaster Hospital

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Public Health Service

General Stores Section of the Packaged Disaster Hospital

**U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
Public Health Service
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Division of Health Mobilization
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INTRODUCTION

Any massive disaster almost inevitably creates an acute shortage of hospital space and medical supplies needed to care for the sudden influx of disaster casualties. To help prepare communities to meet their emergency needs, the Federal Government has stockpiled medical supplies and equipment. Much of this material is contained in Packaged Disaster Hospital units (PDH's) which are assembled by the Public Health Service and loaned to States for storage in carefully selected communities, in affiliation with a local hospital.

A Packaged Disaster Hospital consists of hospital supplies, equipment, and pharmaceuticals packed for long-term storage. In a disaster, the PDH can be used to expand the hospital to which it was assigned, or it can be set up as a separate 200-bed hospital in an appropriate preselected building and operated under the direction of its assigned hospital with personnel drawn from that hospital, from community volunteers, or both.

PDH components permit setting up the following hospital sections: receiving and sorting, operating rooms, wards, central sterile supply, pharmacy, laboratory, X-ray, and general stores. Generators and a water tank and pump are provided in case public utilities are disrupted.

With the predisaster responsibility for the safe storage of the PDH comes the responsibility for making a definite plan showing how the PDH is to be utilized in a disaster. Much of this predisaster planning will, of necessity, be done at the chief of staff-hospital administrator level, in consultation with those specialists assigned to head the various PDH sections, such as nurses, pharmacists, X-ray and laboratory technicians, the building engineer, etc.

If the PDH is to be kept in operation for a number of weeks, arrangements for resupply must be made before the expendable supplies furnished with the PDH are exhausted. A disaster severe enough to necessitate prolonged PDH operation undoubtedly will have disrupted transportation and communications facilities and local suppliers consequently may find themselves unable to meet the needs of the hospitals in their area. Procurement under these circumstances may well be one of the most pressing problems to face the PDH administrator. As part of his predisaster preparation, he or a designated procurement officer should have become familiar with Federal backup supply sources, civil defense supply procedures, and all local sources of supply.

This book is intended primarily for the guidance of the PDH general stores section personnel who will work in the disaster situation. They will be responsible for inventorying and distributing the supplies which come with the PDH and also those subsequently procured by the PDH administrator.

The general stores section is responsible for the storage and distribution of bandages, dressings, all linens, and a variety of miscellaneous items. The section personnel must make an immediate distribution of a portion of the supply of these items throughout the PDH as quickly as possible upon activation. The remaining bulk supplies must then be stored and supply requests from PDH sections filled as long as the PDH remains in operation.

The suggestions offered here presuppose the need for operating the PDH in a separate building for an extended period, as might be the case following a nuclear attack. The outlined planning will also greatly facilitate using the PDH for briefer periods following a disaster such as a flood, hurricane, earthquake, fire, or major accident when the affiliated hospital and other local hospitals are temporarily overloaded or damaged so that they cannot provide their usual patient services.

Information on the overall mission of the PDH and the predisaster planning which is necessary for its effective utilization is included in *Establishing the Packaged Disaster Hospital* (PHS Publication No. 1071-F-1).

STAFFING

Perhaps more than any other staff members, general stores personnel must become familiar with the precise supplies and equipment packed in their PDH. Component listings should be checked carefully, and arrangements should be made predisaster to procure items needed, but not included in the PDH. This will necessitate conferences between the supply officer and the chiefs of all other PDH sections. Working closely with the PDH administrator, general stores personnel are responsible for the procurement and storage of these additional supplies.

The procurement and preparation of food in a national disaster is assigned to Welfare Services. However, in many instances, Packaged Disaster Hospital general stores personnel may be required to procure raw foods for both patients and staff. This would be especially true when the Packaged Disaster Hospital is set up in a separate building. In any disaster situation, national or natural, a function of general stores may be to receive and distribute food for patients and staff. It might even become the responsibility of general stores to obtain food service and preparation equipment.

The personnel who will work in the general stores section should be designated predisaster. They will be among the 30 to 40 helpers who make up the PDH activation staff, along with the PDH chief of staff, administrator, chief of nursing, and the chief building engineer. It is essential that this activation staff be ready to begin setting up the PDH as soon as conditions permit after the disaster. The activation staff helpers will report to their designated PDH sections to assume their operation duties as soon as the activation is accomplished.

It will probably be necessary to operate at first on two 12-hour shifts a day to make the best use of the available experienced personnel. Two clerks and four helpers, to be divided between the two shifts after the PDH is set up, should be assigned to man the general stores section.

A. SUPERVISION

The general stores section may be operated as a separate section with its own section chief being directly responsible to the PDH administrator, or it may be operated in conjunction with the pharmacy section or the central sterile supply section with supervision from either of these section chiefs. The same basic procedures of storage, supply, and inventory management apply in all three sections although, naturally, specialized professional supervision and skills are also required in the management of the pharmacy and central sterile supply sections.

B. CLERKS

1. Qualifications

The two clerks assigned to the general stores section should have some experience in receiving, sorting, and issuing supplies as well as in inventory

management, if possible. One of these clerks can be designated as section chief.

2. Predisaster Preparation

The clerks should become familiar with the PDH supplies they will be handling (see page 9) and with the general plan for setting up and operating the PDH. They should participate in PDH training programs and practice exercises, where this information will be presented.

3. Postdisaster Duties

The clerks should report to their designated supervisor and begin at once to set up their section according to the predisaster plan. They will sort and store supplies, make the initial distribution to appropriate PDH sections, handle subsequent requests for remaining supplies, and keep necessary inventory records.

C. HELPERS

1. Qualifications

The four general stores section helpers can be drawn from lay members of the community. Those with storeroom employment or some understanding of inventory management would be desirable.

2. Predisaster Preparation

If it is possible to designate the general stores section helpers predisaster, they should become familiar with the PDH supplies and equipment and receive training in identifying supplies and storing them properly. They should participate in PDH training programs and practice exercises.

3. Postdisaster Duties

The helpers should report at once to their section and assist in its activation. They will unpack, sort, store, and distribute supplies. They will also perform messenger and delivery duties and keep the section clean and orderly. Postdisaster, it may become the responsibility of general stores personnel to procure necessary supplies and equipment not packed with the PDH, which either were not or could not be obtained predisaster.

PREPARING THE SECTION

A. LOCATION

The general stores section requires a minimum of 900 square feet of floor space. (A part of this amount could be in a garage or other non-premium space.) The general stores section should be reasonably accessible to those sections which will be requesting supplies. An efficient arrangement is to locate the general stores, pharmacy, central sterile supply, and laboratory sections close together. Supplies or services are requested from all these units and messenger pickups will be considerably simplified if these sections are in the same area. This layout would also permit joint supervision (of the pharmacy and general stores sections, for instance) should it be necessary for available personnel to assume responsibility for more than one section. Two sample floorplans for setting up the PDH in a school building are shown on the next page.

B. FURNITURE

Arrangements to procure counters, shelves, tables, chairs, and other furniture and fixtures should be made predisaster. None of these items are furnished with the PDH; if they are not already at the operating site they must be brought from local sources or improvised from packing cases and boxes.

C. SPECIAL STORAGE CONSIDERATIONS

1. Storage of Flammables

The general stores section will be responsible for flammable items such as cans of solidified alcohol and boxes of safety matches, which, improperly stored, could constitute a fire hazard. These items must be kept from heat and open flame and a special storage area should be provided for them, if possible.

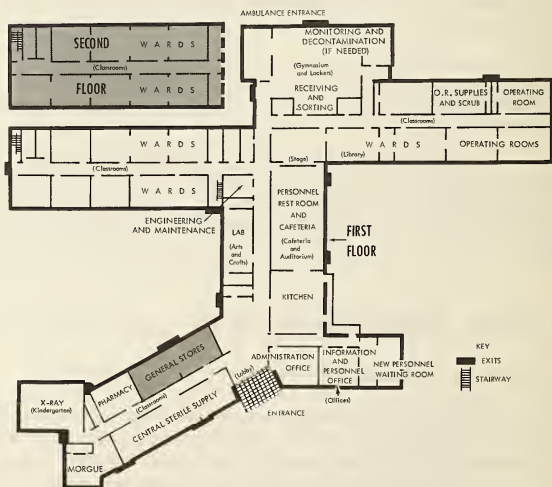
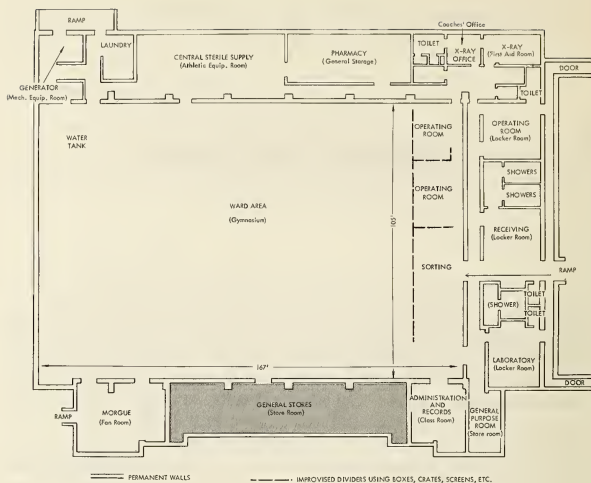


FIGURE 1—Sample Floorplans for Setting Up the PDH in a School Building

2. Storage of Items Subject to Damage by Freezing

The general stores section may be responsible for storage of blood collecting and dispensing supplies which must be kept from freezing. Complete lists of all PDH items which must be kept from freezing are given in various component listings packed with the PDH they cover. Should it be necessary to put any bulk supplies in outbuildings or unheated space where below-freezing temperatures are a possibility, care in selecting items for such storage is essential.

3. Storage and Handling of Compressed Gas Cylinders

All oxygen and nitrous oxide cylinders will be brought first to the general stores section which is responsible for the initial distribution to other PDH sections. The reserve stock will be kept in the general stores section for issue as needed. In storing and moving charged cylinders, the following precautions should be observed:

- a. Compressed gas cylinders should be stored in a specifically designated location. Empty cylinders should be stored in a different place so they will not be confused with charged cylinders.
- b. Keep cylinders in a cool, dry place away from radiators or other heat sources. Cylinders should never be subjected to a temperature above 125° F.
- c. Cylinders should not be exposed to continuous dampness nor be stored near any corrosive chemicals or fumes. Rusting will damage the cylinders and can cause the protective caps of the valves to stick.
- d. Do not store cylinders where they can be struck by moving objects. If stored horizontally, they should be suitably boxed or blocked so they will not roll. If stored upright, they should be chained to a wall or otherwise protected from being knocked over. The protective caps of the valves should always be kept in place.
- e. Do not store cylinders near any flammable materials. Never lubricate valves, fittings, or cap threads with oil, grease, or any other combustible substance.
- f. Any cylinders suspected of leakage should be kept apart in a well-ventilated place. Soapy water is generally used to detect gas leaks.

g. Handle cylinders carefully when moving them to another location. Do not allow them to drop or strike each other violently. Avoid dragging or sliding cylinders.

h. Cylinders of compressed gases should be handled only by experienced and properly instructed personnel and should be protected from tampering.

4. Standby Storage

It is likely that space at the PDH operating site will be extremely limited. Bulk stocks of items which are delivered initially to the various hospital sections should not be stored over an extended period in areas which could be used for wards or other clinical functions. An area considered unsuitable for patient care may be designated by the PDH administrator for storage of those items which are in excess of the immediate needs. Supervisory responsibility for this storage area should be assigned by the administrator. Inventory records of items received and issued should be kept carefully, especially when items from more than one PDH section are stored in the same area.

ORGANIZING SUPPLIES

A. STOCK CONTROL SYSTEM

If the supplies of expendables are to be managed properly and made available equitably to all clinical sections, a stock control system must be established. Planning the system predisaster will allow ample time for designing and printing necessary forms and for familiarizing the PDH staff with this system. Otherwise, a system will have to be established as quickly as possible during the first days of operation with an inevitable loss of speed and accuracy.

The system should be simple enough to be workable under the pressure of disaster conditions and yet complete enough to permit establishing an initial inventory, accounting for issued stock, determining balances, and computing resupply requirements.

B. INITIAL INVENTORY

The contents of each PDH are itemized by case number on the master list furnished with the unit. One copy of this list is sent to the designated PDH custodian at the time the unit is delivered for storage. Additional copies are packed with the PDH. When the PDH is activated, cases are delivered to the PDH section indicated on the master list.

Quantities of all items received in the general stores section should be noted as they are unpacked to provide an accurate inventory list. This will be the basis for all future records as supplies are subsequently issued and new stocks procured.

Various publications are available for guidance during activation, depending upon the PDH model affiliated with the existing hospital.

C. PERPETUAL INVENTORY

As soon as possible, a set of control records should be made, using a form such as the one shown in figure 2, or a more elaborate standing order

form. These forms are not furnished with the PDH. It may be decided pre-disaster to have the forms prepared locally and stored with the PDH. If this is not done, the information can simply be written on blank sheets of paper. There should be a separate sheet for each item of supply and it should carry the name of the item, unit of issue, size, etc. Columns should provide space to enter quantities received, quantities issued, the balance, and any remarks. The sheets should be arranged alphabetically in a notebook or file box. They should be kept up to date and a balance obtained regularly. This will make it possible to foresee shortages before they become acute.

When used, a standing order form should be prepared pre-disaster, with assistance of the hospital administrator, chief of staff, and functional section supervisors. A typed form duplicated by any simple reproduction process is sufficient. This form will enable general stores personnel to determine immediate distribution requirements, to check supplies delivered to general stores, and to determine amounts of supplies to be picked up from other sections for storage.

D. INITIAL DISTRIBUTION

In order to consolidate items in a manageable number of crates and boxes, the PDH is packed so that some cases contain an assortment of items which are needed in different hospital sections. Other cases contain the

(This space for item identification)				
Date	Received	Issued	Balance	Remarks

FIGURE 2—Inventory Control Record Form

entire PDH supply of an item which will be used in several sections. All the cases of bandages and dressings, for instance, are delivered to the general stores section although some of the supply will be needed immediately in the wards, operating rooms, and the receiving and sorting section.

These cases must receive special attention to assure that they are unpacked and their contents sorted and delivered as quickly as possible, according to the breakdown information given in the *Illustrated Catalog and Guide for Distribution of Packaged Disaster Hospital Materials*. No supply requests are required for this initial distribution.

E. UNPACKING

Care should be taken during the unpacking not only to avoid damaging supplies but also to avoid tearing or breaking the boxes. Crates and heavy boxes can be used as improvised counters and storage cabinets and should be saved for this purpose. When the need for the PDH has passed, the equipment and any remaining supplies will be repacked and returned to storage, requiring the use of the original packing boxes. The boxes which contained expendables may be needed in other sections, especially in the wards where they can be made into bedside tables, backrests, overbed tables, etc.

Boxes of supplies and smaller pieces of equipment should be opened but not unpacked other than to meet immediate needs. If there is not sufficient shelf space in the section, these boxes can be stacked with their opened sides facing out into the room in an improvised shelf arrangement. Section personnel should be able to get to the stock of each item without having to move other boxes. As much attention as conditions permit should be given to the section's initial storage arrangement so that supplies can be located easily in the ensuing days of PDH operation.

SUPPLY DISTRIBUTION

A. SUPPLY REQUESTS

It may be found efficient to designate one person within the entire supplying area (pharmacy, general stores section, and central sterile supply) to receive all supply requests and direct them to the section where the requested items are stored. This coordination will be helpful in locating various miscellaneous items which could be stored in any of several places depending upon storage space in the individual building.

The general stores section will release supplies to the various PDH sections on receipt of written requests. Forms for this purpose are not supplied with the PDH. It is recommended that a form such as the one shown in figure 3 be reproduced in the community predisaster. Requests can, however, be written on the pads of unruled paper which are supplied with the PDH.

Supply requests should be made out in triplicate. Carbon paper is furnished with the administrative supplies in some of the PDH's. Another source of carbon paper is the PDH receiving and sorting section. Index and information cards, filled out for each patient as they come into this section, are interleaved with carbon paper which is still usable after it is removed from the triplicate card sets.

The originating section should keep a copy of the supply request and send the original and second copy to the general stores section. The second copy is returned with the supplies and the original is kept by the general stores section. By referring to these originals, the general stores staff can keep their perpetual inventory records current.

B. STANDARD-ISSUE QUANTITIES

It may be difficult at first to determine use-rates accurately enough to be able to establish any rules on what quantities a section should be allowed to request at one time. To assure equitable distribution, however, some limits must be set. One possible standard is to allow a section to keep on

hand no more than a 5-day supply of an item. The initial automatic distribution is based on an estimated 5-day supply of expendables.

C. UNFILLED ORDERS

A procedure should be established for processing requests when the needed supplies are not available. The original and copy of the supply request can be returned to the originating section with a reorder date or the copy can be returned with the notation that the supplies will be sent when they are available. In the latter case, the original should be kept in a pending file in the general stores section until supplies can be obtained from an outside source.

D. ROUTINE REPLENISHMENT

After the initial heavy influx of patients has subsided, the PDH will settle into a more routine operation. At this time it may be possible to

DISASTER HOSPITAL SUPPLY REQUEST FORM		
FROM _____ SECTION		Date _____
ROOM _____		Time _____
TO: (check one) ☐ STERILE SUPPLY ☐ PHARMACY		
☐ STORES		
QUANTITY	ITEM NEEDED	IDENTIFYING NO.
DISPOSITION OF REQUEST: ☐ ISSUED ☐ NOT AVAILABLE ☐ OUT OF STOCK REORDER _____		
INSTRUCTIONS: Prepare in triplicate. Send two copies to Sterile Supply, Pharmacy or Stores. Retain one copy.		

FIGURE 3—Disaster Hospital Supply Request Form

establish a procedure for picking up supply requests and delivering supplies on a regular basis. Emergency or "stat" orders should, of course, be filled as soon as they are presented.

E. RESUPPLY

When the inventory balances show that supplies are being depleted, the PDH administrator should be notified so that he can proceed with his plans to procure the needed items through civil defense supply officials or directly from local suppliers. Efforts to obtain more supplies should be begun well before the supplies on hand are exhausted. The time at which a reorder is initiated will depend, of necessity, on the actual situation. Only then will it be possible to know the rate of use and the time lag in obtaining additional supplies.

Depending upon community planning and decisions made by the Packaged Disaster Hospital administrator and supply officer jointly, general stores may be responsible for pickup of locally obtained supplies to be placed in the general stores area and elsewhere in the Packaged Disaster Hospital, as well as for the pickup of goods when resupply is necessary.

F. MANAGEMENT OF LINENS

One of the PDH administrator's responsibilities predisaster is to see that arrangements for laundry service are made. Few PDH sites will have adequate laundry facilities. It may be possible to use the facilities of the parent hospital or arrangements may be made with nearby commercial laundries.

The general stores section receives the entire PDH stock of sheets, pillowcases, towels, patient gowns, operating gowns, and surgical drapes. The section is responsible for the initial distribution of these items to the wards, operating rooms, and other clinical sections, as necessary, and it also stores the replenishment supply. As withdrawals from this supply begin, soiled linens must be collected and sent for laundering. When the linens are returned, the quantity should be checked and the supply returned to the stock on hand. Central sterile supply will draw upon this stock for those linens it sterilizes for surgical use.

Consultation with the PDH chief of staff, the administrator, and the director of nursing will be necessary to determine priority use and the most efficient distribution system. The limited supply of linens will not permit storing extras on the wards.

G. ADDITION OF PDH STORES TO EXISTING INVENTORY

When PDH supplies and equipment are used to supplement those of the affiliated hospital, inventory records should be altered to reflect these additions so that accurate figures will be immediately available for resupply planning. In an acute disaster situation, volunteer personnel recruited for general stores duty and trained predisaster might assist regular stores personnel in inventory control as well as in the performance of all tasks assigned to this section.

Dual Inventory. Because of the volume of PDH stock assigned to general stores, it will not always be possible to add these supplies directly to the affiliated hospital inventory. When it is necessary to set up a separate stock room for PDH stores, a dual inventory control system is indicated. Pre-disaster planning should provide for a system which will integrate PDH inventory with regular inventory. This might be accomplished by requisitioning supplies from PDH stores only when they become low in the parent hospital stores section. When items are taken from PDH stores, records should reflect each withdrawal. Resupply of items packed in the PDH would then be determined by PDH perpetual inventory records.

Regardless of the type of dual inventory system decided upon, routine accuracy checks should be made between records kept in PDH general stores and those kept in the parent hospital's regular supply section.

PDH PUBLICATIONS

Establishing the Packaged Disaster Hospital (Revised 1966) PHSP No. 1071-F-1

X-ray Section of the Packaged Disaster Hospital (Revised 1966) PHSP No. 1071-F-2

Central Sterile Supply Section of the Packaged Disaster Hospital (1966) PHSP No. 1071-F-3

Laboratory Section of the Packaged Disaster Hospital (1966) PHSP No. 1071-F-4

Operation of Generators in the Packaged Disaster Hospital (1968) PHSP No. 1071-F-5

Water Supply Management in the Packaged Disaster Hospital (1965) PHSP No. 1071-F-6

Packaged Disaster Hospital Custodian's Handbook (Revised 1965) PHSP No. 1071-F-10

Nurses' Ward Management Guide for the Packaged Disaster Hospital (1965) PHSP No. 1071-F-12

Pharmacy Section of the Packaged Disaster Hospital (1966) PHSP No. 1071-F-13

Assembling Equipment in the Packaged Disaster Hospital (1966) PHSP No. 1071-F-14

Illustrated Catalog and Guide for Distribution of Packaged Disaster Hospital Materials (1965) PHSP No. 1071-F-15

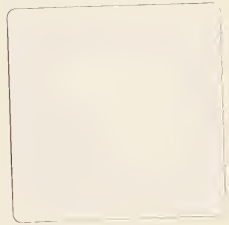
Check List for Developing a Packaged Disaster Readiness Plan (Revised 1968) PHSP No. 1071-F-16

General Stores Section of the Packaged Disaster Hospital (Revised 1968) PHSP No. 1071-F-17



Publications in the Health Mobilization Series are keyed by the following subject categories:

- A—Emergency Health Service Planning
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- E—Health Resources Evaluation
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- G—Health Facilities
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